

Amendments to the Claims:

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An optical encoder comprising:
a coding element having an index a-track with at least one transparent section and a separate position track having multiple transparent sections;
a light ~~source emitting diode (LED)~~ positioned to output light to the index and position tracks track; and
an index a-photodetector array positioned to detect light that passes through the transparent section of the index track, the index photodetector array comprising first and second photodetectors with different surface areas and a combined width dimension that allows the entire index photodetector array to be simultaneously lit by light that passes through the transparent section of the index track-coding element; and
a separate position track photodetector array positioned to detect light that passes through the transparent sections of the position track.
2. (currently amended) The optical encoder of claim 1 wherein the first and second photodetectors generate different amounts of photocurrent when simultaneously lit by the light sourceLED.
3. (currently amended) The optical encoder of claim 1 wherein the index track of the coding element includes an opaque section with a width dimension that matches the width dimension of the first photodetector.
4. (original) The optical encoder of claim 1 further including a third photodetector, wherein the surface area of the first photodetector is greater than the surface area of the second and third photodetectors combined.

5. (original) The optical encoder of claim 4 wherein the first photodetector generates more photocurrent than the second and third photodetectors combined when the first, second, and third photodetectors are simultaneously lit.

6. (original) The optical encoder of claim 4 wherein the second and third photodetectors are located adjacent to either side of the first photodetector.

7. (original) The optical encoder of claim 6 wherein the coding element includes an opaque section with a width dimension that matches the width dimension of the first photodetector.

8. (canceled)

9. (currently amended) The optical encoder of claim 1 wherein the index track comprises a primarily transparent track with at least one opaque section.

10. (currently amended) The optical encoder of claim 1 wherein the index track comprises a primarily opaque track with at least one transparent section.

11. (currently amended) An optical encoder for indicating the rotational movement of a shaft comprising:

a codewheel having an index track with at least one transparent section;

a light emitting diode (LED) positioned to output light to the index track;

and

an index photodetector array positioned to detect light that passes through the transparent section of the index track, the index photodetector array comprising first and second photodetectors with different surface areas and a combined width dimension that allows the entire index photodetector array to be simultaneously lit by light that passes through the transparent section of the codewheel;

wherein the index track of the codewheel includes an opaque section with a width dimension that matches the width dimension of the first photodetector.

12. (original) The optical encoder of claim 11 wherein the first and second photodetectors generate different amounts of photocurrent when simultaneously lit by the LED.
13. (canceled)
14. (original) The optical encoder of claim 11 further including a third photodetector, wherein the surface area of the first photodetector is greater than the surface area of the second and third photodetectors combined.
15. (original) The optical encoder of claim 14 wherein the first photodetector generates more photocurrent than the second and third photodetectors combined when the first, second, and third photodetectors are simultaneously lit.
16. (currently amended) The optical encoder of claim 14 wherein the second and third photodetectors are located adjacent to either side of the first photodetector ~~and wherein the coding element includes an opaque section with a width dimension that matches the width dimension of the first photodetector.~~
17. (withdrawn) An optical encoder comprising:
a coding element having an index track with at least one transparent section and a position track with multiple transparent sections;
a light source positioned to output light to the index and position tracks;
and
an index photodetector array comprising a first index photodetector positioned to detect light that passes through the multiple transparent sections of the position track and a second index photodetector positioned to detect light that passes through the at least one transparent section of the index track.
18. (withdrawn) The optical encoder of claim 17 wherein at least one transparent section of the index track has a width dimension that is the same as the width dimension of the second index photodetector.

19. (withdrawn) The optical encoder of claim 17 wherein the transparent sections of the index and position tracks are configured such that, at one position of the coding element, more surface area of the second index photodetector is lit than the first index photodetector.

20. (withdrawn) The optical encoder of claim 17 further including a position photodetector array positioned to detect light that passes through the multiple transparent sections of the position track, the second index photodetector of the index photodetector array being integrated with the position photodetector array.

21. (new) An optical encoder for indicating the rotational movement of a shaft comprising:

- a codewheel having an index track with at least one transparent section;
- a light emitting diode (LED) positioned to output light to the index track;

and

- an index photodetector array positioned to detect light that passes through the transparent section of the index track, the index photodetector array comprising first and second photodetectors with different surface areas and a combined width dimension that allows the entire index photodetector array to be simultaneously lit by light that passes through the transparent section of the codewheel;

- wherein the index track comprises a primarily opaque track with the at least one transparent section comprising a transparent section with a width dimension that matches the width dimension of the first photodetector.